

The Relationship of Fear and Fatalism with Breast Cancer Screening Among a Selected Target Population of African American Middle Class Women

Patricia Yvonne Talbert
North Hennepin Community College

The purpose of this quantitative study was to explore whether fear and fatalism influence compliance with breast cancer screening among members of a selected target population of African American middle-class (AAMC) women. Using a cross-sectional analysis, a sample of 120 AAMC women, ages 35 and older, residing in Minnesota, was surveyed with an abridged version of the Champion Health Belief Model Scale (Champion, 1999), the Champion Breast Cancer Fear Scale (Champion et al, 2004), and an adapted version of the Powe Fatalism Model (Powe, 1995). Results indicated that fear and fatalism belief scores were statistically related to breast cancer compliance ($p < .001$). These barriers suggest a greater need for health interventions that are culturally specific, with the intention of improving the psychological aspects of health to address fear and fatalism. The social dimension of this change should involve building cohesive physician-patient relationships. This action serves to counteract fear, fatalism, and negativism, and to increase the level of comfort among individuals who are more apprehensive about seeking health care services.

Key Words: African American middle-class (AAMC) women, psychosocial, fear, fatalism, breast cancer

According to the National Cancer Institute (2008), breast cancer is the most common cancer among women worldwide. Although recent scientific and programmatic advances in health care and technology have led to a decreased mortality rate of breast cancer, many challenges remain in terms of reducing the health disparity between African American and Caucasian women with regard to this disease. African American women with breast cancer have a 36% higher mortality rate than Caucasian women (ACS, 2008; NCI, 2008). Despite multiple

Patricia Y. Talbert, PhD, MPH, is an associate professor of health science at the North Hennepin Community College and a senior quality improvement specialist at Metropolitan Health Plan. The author would like to acknowledge all the women who participated in the research study, the Alpha Kappa Alpha sorority, and the Minneapolis Urban League. In addition, the author gratefully acknowledge the contributions made to this article by Dr. Daniel Girdano. Address correspondence to Dr. Talbert at North Hennepin Community College, Brooklyn Park, Minnesota 55445; E-mail: ptalbert@nhcc.edu or ptalbert@waldenu.edu.

breast cancer screening programs and services available to increase cancer awareness, many barriers have been identified as factors that reduce breast cancer screening among African American women.

Several researchers have explored the perceived barriers that prevent minority women from seeking breast cancer screening. In an exploratory study, Thomas, Saleem, and Abraham (2005) discovered several factors that act as barriers among African Americans and other minority group members. Factors such as lack of knowledge, underlying health and cultural beliefs, language barriers, and unhelpful attitudes of health professionals contributed to lower utilization of mammography screenings in minority women. Loerzel and Bushy (2005) also identified barriers to cancer screening, including both systemic and human barriers, that influence the health care seeking behaviors of women of low socioeconomic status (SES) and minority women.

There are many other barriers that deter African Americans from seeking screening, including acculturation limitations, lack of education and awareness, and reduced access to medical services (Farley & Flannery, 1989; McWhorter & Mayer, 1987; Wells & Horm, 1992). Rather than concentrating on these barriers, this study explored the psychosocial factors (i.e., fear and fatalism) that play a major role in discouraging African American middle class (AAMC) women from seeking breast cancer screening. Stoner and colleagues (1998) wondered why, with the increased efficacy of mammography screening, so many women fail to take advantage of screening. This study proposes that, along with so many other barriers, fear and fatalism are among the major impediments that deter screening. These factors, coupled with lower levels of education regarding the etiology of breast cancer and preventive guidelines, contribute to the inadequate levels of screening among African American women. As a result, this research explored how these barriers impede preventive screening.

The Health Belief Model

The conceptual and theoretical framework for this study is the psychological aspect of human beliefs, attitudes, and behavior intentions. The health belief model (HBM) is popular in exploring individual attitudinal factors, such as perceptions of susceptibility, barriers, and health behaviors. As Mikhail (1981) stated, the model examines certain health-related questions, such as, "Why do some people use health services, but others do not? Why is there a high rate of noncompliance with health and medical care recommendations?" (p. 65). This model helps to explore why some African American women are reluctant to seek preventive breast cancer screening, and addresses the behavior of women who are noncompliant with breast cancer screening recommendations. Furthermore, the model's structural constructs have an innovative interdisciplinary approach to analyzing the behavioral and social sciences of human beliefs and attitudes.

The HBM examines attitudes and beliefs to predict behaviors related to an individual's health. This integrative model asserts that behavior change depends on individual beliefs, certain behavioral patterns, and habits. According to Glanz, Rimer, and Lewis (2002), the model was developed in the 1950s by social psychologists Hochbaum (1958) and Rosenstock (1960), who were working in the U.S. Public Health Service, "to explain the widespread failure of people to participate in programs to prevent and detect disease" (p. 46). Later, Kirscht (1974) was responsible for broadening the model to explain and examine how people respond to being diagnosed with illnesses, along with their capacity for handling these conditions; it was then able to provide insight into how individuals respond to medical regimens and implement behavioral changes (Glanz et al.). According to the theoretical framework, four constructs (i.e., perceived

susceptibility, perceived severity, perceived benefits, and perceived barriers) are hypothesized to precede an individual's decision to modify behavior. Later, other scholars added cues to action, which is understood as strategies to activate one's readiness. Then, the concept of self-efficacy was added, defined as confidence in one's ability to take action (Glanz et al.), which affects one's capacity to change habitual unhealthy behaviors (e.g., smoking, overeating or excessive use of alcohol).

Researchers have also used the HBM to explain the lack of public participation in health screening and prevention programs, such as exploring women's behavior in seeking routine mammography screening (Brenes & Skinner, 1999; Champion & Springston, 1999; Miller & Champion, 1997; Thomas, Fox, Leake, & Roetzheim, 1996). In particular, Champion and Springston explored the constructs of perceived susceptibility to breast cancer, barriers, and action, and in conjunction added the transtheoretical model (TTM), to understand the barriers by stages of mammography adherence among low-income African American women. On the other hand, Brenes and Skinner assessed the psychological factors related to stage of mammography adoption by using the HBM variables, response efficacy, knowledge, and avoidance. Throughout this exploratory study, the authors investigated many salient factors regarding women's behavior concerning mammography, such as avoidance, which proved to be an important factor. Brenes and Skinner suggested that "perhaps avoidance is lower in adherent women because they have had a mammogram and, therefore, feel reassured and less fearful that they may have breast cancer" (p. 1319). This is a relevant point, because it provides an explanation that it is possible that after women move from the precontemplation stage to action, it may be, to some extent, easier to remain compliant.

Some researchers favor using the HBM to identify determinants of breast cancer screening, and from there to focus on the relevance of individuals who have low-income and/or no insurance to support preventive screening (Garza et al., 2005). There are even some researchers who have explored and offered valuable information pertaining to why most low-income minority women do not obtain mammography screening on a regular basis (Crump, Mayberry, Taylor, Barefield, & Thomas, 2000; Russell, Monahan, Wagle, & Champion, 2006; Sadler et al., 2007), but many have neglected to include the middle class minority population, and fail to realize that some individuals who fall in the middle class income bracket frequently struggle to pay for insurance and other essential necessities. As a result, this study explored this concept in greater detail by including AAMC women.

Fear and Fatalism

This study explored fear and fatalism as obstacles that deter AAMC women from seeking breast cancer screening. Fear and fatalism each have a few different definitions, and both offer various ways to explain human behavior adaptation. The word fear is defined "as a sufficiently potent, biologically driven, motivated state wherein selected features from the environment guide behavior, specifically a single salient threat" (Bay & Algase, 1999, p. 106). Fear has the effect of impairing judgment, behavior, and standard practices. Some women may agonize over the anticipated pain that the mammography test presents or worry about being diagnosed with breast cancer. Phillips, Cohen, and Moses (1999) identified fear as a barrier to screening. When individuals are fearful of finding breast cancer, they may decide not to seek screening. Psychosocial fear has the effect of impairing one's cognitive behavior, thus creating dissonance and confusion while reducing the person's capacity for logical decision-making (American Psychological Association, 2004). In contrast, Mitchell, Mathews, and Mayne (2005) argued that, because beliefs about many physical and social consequences are interwoven within cultural

ideologies, many African American women would rather not risk the social consequences of having others discover that they have breast cancer. In essence, fear can coerce African American women into thinking that the loss of a breast (through mastectomy), loss of hair, or loss of a mate presents too much of a risk. This mentality can overpower their logical reasoning, impeding their rational decision-making capacity, and causing them to avoid preventive screening.

Fatalism is another factor analyzed as a psychosocial barrier that decreases screening compliance. Fatalism is identified as a doctrine of fate, a philosophical doctrine held by individuals who believe that all events are fated to happen and that human beings have no control over their futures and are unable to change their outcomes (Corsini, 1999; Franklin et al., 2007). Fatalism is the belief that situations, such as illnesses or catastrophic events, happen because of a higher power (such as God), or they are just meant to happen, and cannot be avoided. To draw attention to Powe's (1997) philosophy, which specifically addresses cancer fatalism, she stated, "Cancer fatalism represents a surrender of the human spirit to perceptions of hopelessness, powerlessness, worthlessness, and social despair" (p. 135). Some women facing the prospect of breast cancer may feel powerless; they reason that this disease was "meant" to happen to them. Unfortunately, this belief has prevented many African American women from seeking preventive cancer screening (Powe & Finnie, 2003).

Very little research exists addressing the role of fear and fatalism together in predicting compliance of mammography screening among AAMC women. However, these variables have been explored independently among underserved and low-income African American women (Frisby, 2002; Powe & Johnson, 1995; Straughan & Seow, 1998). Consequently, the purpose of this cross-sectional study was to explore whether fear and fatalism affect a select target population of AAMC women's compliance with breast cancer screening. By comparing data, the study explores the difference between AAMC women who follow preventive measures to help reduce their risk of cancerous diseases versus those who neglect to seek screening. The study examined the following questions: (a) Do the two variables—fear and fatalism—have a relationship to AAMC women's compliance with breast cancer screening recommendations? (b) Does education moderate the relationship of fear and fatalism to compliance in this target population? Do the insufficient evidence that exists to make specific predictions, exploratory null hypotheses are presented:

1. Fear and belief scores are not significantly related to breast cancer compliance.
2. Fatalism scores are not significantly related to breast cancer compliance.
3. Education does not significantly moderate the relationship between fear beliefs and compliance.
4. Education does not significantly moderate the relationship between fatalism beliefs and compliance.

Method

Target Population

In this study, the researcher deliberately focused on AAMC women, aged 35 and older, who were affiliated with the Alpha Kappa Alpha college sorority, the Minneapolis Urban League, and faith-based organizations in Minnesota. These organizations were chosen because they have developed educational information, created health programs, and provided human services and advocacy to promote social changes for African Americans. These organizations work diligently to improve the status of individuals by improving industry working conditions,

increasing wages, obtaining better housing and accessible health care, and promoting health and wellness. Their exceptional and historical work aligns perfectly to the target population.

Middle Income Criteria

In categorizing middle income women, Wheary (2005) suggested that middle income denotes the way of life or the comfort level in which an individual lives, and that it “connotes a level of financial security and stability” (p. 8). The U.S. Census Bureau (2005) does not provide an official definition of *middle class*; however, the census used several formulated instruments, such as the Gini index and aggregate data, to derive a scale for categorizing financial rank, and then divided the results into quintiles. Wheary postulated that income level can be used as another criterion for determining middle class; in this protocol individuals may be further classified into an income range. For the purpose of this research study, middle class was classified by household income in the range of \$35,000 to \$74,999 annual income.

Power Analysis

Based on the *G Power* analysis program, an appropriate sample size to test the hypothesis was calculated to be 110. This calculation is considered highly accurate. According to Erdfelder, Faul, and Buchner (1996), “*G Power* is a general power analysis program that performs high precision statistical power analyses for the most common statistical tests in behavioral research” (p. 2). The calculated effect size *d* (EF) of medium was 0.5 with an alpha level of 0.05 and set power at 80%.

Sample

One hundred twenty individuals participated in the survey; 119 of the participants reported their ethnicity as African American, and 1 participant reported African American/mixed ethnicity. The frequencies and percentage distribution of participants by education level were as follows: high school 5 (4%), some college 34 (28%), undergraduate degree 48 (40%), and graduate degree 33 (28%). The mean response for age was 44.51 (*SD* = 7.00). Frequencies and percent distribution of participants by annual income range were as follows: 39 (32%) had incomes of \$35,000 to \$45,000; 38 (32%) and incomes of \$45,000 to \$54,999; 30 (25%) had incomes of \$55,000 to \$74,999; and 13 (11%) had incomes of greater than \$75,000.

Of the participants, 53 (44%) reported having had a mammogram, while 67 (56%) reported that they have not. Of the 53 participants who have had a mammogram, the mean age at the time of their first mammogram was 43.41 (*SD* = 8.38). One hundred eighteen of the participants reported believing that mammography and breast self-examinations (BSE) are important for reducing breast cancer mortality, and 2 did not.

Procedure

After receiving Walden University Institutional Review Board approval, the researcher selected participants using a nonrandom sampling method, because subjects were easily accessible within the selected organizations, and it would have been more challenging to find a significant number of participants utilizing other sampling approaches (e.g., in a simple random study). More specifically, the sample suited the purpose of the study and well-documents that a particular characteristic or phenomenon occurs within the target population (Gall, Borg, & Gall, 1996). The study relied, therefore, on a sample of the AAMC female population in Minnesota meeting the above criteria.

An electronic survey tool was used to collect and coordinate data. This process was selected because having a single survey questionnaire was more effective and efficient for the participants than otherwise. Also, the combined survey tool was able to reach many individuals across all major communication networking platforms. According to Internet World Statistics

(2006), it is estimated that over 1.04 billion people, from various racial and ethnic cultural milieus, access the Web. More importantly, the Internet system offers an excellent means of communication via e-mail or by the development of survey questionnaires.

The SurveyMonkey program was used to transfer the instruments and the demographic questionnaire to participants online. The SurveyMonkey program is intelligent survey software that enables individuals to create a professional online survey, collect responses, and analyze data. Using an electronic survey tool to disseminate and collect information is advantageous because: (a) the program is capable of forwarding the survey to multiple parties, (b) the survey was developed in a simple and computer friendly format, (c) more participants were willing to contribute because of their frequent professional and personal use of computers, (d) participants were able to answer questions in a private environment, (e) the program is cost effective, and (f) the provision of confidentiality and anonymity is built into the secure database.

The participants were forwarded e-mail that consisted of instructions regarding the survey process and the link to the survey's Web page. The participants were allotted two months to complete the survey. In addition, reminder notifications were sent to all participating organizations, and the researcher made periodical checks to ensure that the database was working correctly.

Instruments

Demographic data collected consisted of participants' ages, educational levels, ethnicities, and income levels. Additional information regarding mammography screening and BSE history were included in the survey. The collected information was extrapolated and divided into individual groups to assist with analyzing the data. This information was then developed in order to verify eligibility criteria and to collect general comprehensive information regarding participants' history of mammogram screening and BSE.

The Champion Health Belief Model Scale (CHBMS) was originally developed in 1984 (Champion, 1984) and a revised model was crafted in 1999 (Champion, 1999). This research used an abridged version of the revised model, which was "developed for measuring perceived susceptibility to breast cancer and perceived benefits and barriers to mammography utilization" (p. 341). The scale had a total of 53 breast cancer behavior questions. The abridged version included a total of 30 items, and utilized a 3-point, Likert-type rating scale with a scoring range of 1 (*strongly disagree*) to 3 (*strongly agree*). Scales were later revised, then tested and retested for reliability (Champion, 1999). The study obtained a Cronbach alpha coefficient scale of .88.

The Champion Breast Cancer Fear Scale (CBCFS; Champion et al., 2004) was designed specifically to measure the perceived fear of breast cancer. The measure is unique in the sense that it analyzes the general emotion or the physiological arousal relating to human behavior regarding mammography testing. The CBCFS is an 8-item, 5-point, Likert-type rating scale with a scoring range of 1 (*strongly disagree*) to 5 (*strongly agree*). The instrument has been tested for reliability and validity. The study obtained a Cronbach alpha coefficient scale of .91.

The final instrument tested the participants' level of fatalism using the Powe Fatalism Model (PFM; Powe, 1995). The PFM explores negativity and those thoughts of hopelessness that may have some correlation with cancer diseases. The author and many others have used this model in a variety of diseases to explain human behavior. The PFM is a 15-item scale, with a 5-point Likert-type rating scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), that was developed to explore an individual's fatalistic beliefs regarding physical diseases. In this study, the researcher selected an adapted version of the PFM which included only four items. The instrument has been tested for reliability and validity, and has a Cronbach alpha of .87. In regard

to the instruments, higher numbers indicated greater levels of fear and fatalism. Therefore, individual numbers were calculated to create a total score for fear and fatalism.

Data Analysis

Demographic information was analyzed using descriptive statistics, including mean, range, variance, and standard deviation of such variables as age, educational level, and income. Certain behavioral patterns were also analyzed (i.e., frequency of mammography testing and BSE). To explore the research questions and test the hypotheses, data from the collected groups were analyzed using logistic regression. An analysis of data was completed using the Statistical Package for Social Sciences (SPSS) computer software program (version 12.0 for Windows) to analyze variables of the quantitative data.

Results

Cronbach's alpha tests of reliabilities, conducted to assess the internal consistency of fear, fatalism, and the five HBM subscales (i.e., susceptibility, severity, benefits, barriers, and self-efficacy), are presented in Table 1. All alpha coefficients were in the .75 to .95 range, which suggests the instrument had acceptable to excellent internal consistency (George & Mallery, 2003).

Table 1
Descriptive Statistics and Cronbach Alpha Reliabilities

Subscales/scales	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>	α	No. of Items
Susceptibility	120	1.00	4.20	2.67	0.74	.750	5
Severity	119	1.00	4.80	3.27	0.87	.900	5
Benefits	120	1.80	5.00	3.68	0.46	.857	5
Barriers	119	2.80	5.00	4.01	0.66	.799	5
Self-Efficacy	119	1.40	4.80	2.98	0.85	.853	5
Fear	120	1.00	5.00	3.56	0.81	.930	8
Fatalism	120	1.00	5.00	3.48	0.98	.878	4

Logistic regressions were conducted to test the hypotheses. The results showed that the null hypotheses were rejected in all cases (see Table 2). Regarding to the first and second hypotheses, the findings indicated that fear and fatalism belief scores were significantly related to compliance with breast cancer health screening recommendations. The remaining hypotheses supported the conclusion that education does moderate the relationship between fear and fatalism beliefs and compliance. As a whole, these results indicated that women who hold fearful and fatalistic beliefs are less likely to seek screening and be in compliance with the recommended guidelines.

Table 2
Logistic Regression of the Compared Variables

	Predictor	Regression	<i>p</i> value	Nagelkerke R^2
Hypothesis 1	Fear scores	$\chi^2(1) = 14.27$	$p < .001$.159
Hypothesis 2	Fatalism scores	$\chi^2(1) = 21.04$	$p < .001$.229
Hypothesis 3*	Education/Fear Belief	$\chi^2(1) = 2.18^a$	$p = .140$.077
		$\chi^2(1) = 11.51^b$	$p < .01$.192
Hypothesis 4	Education/Fatalism	$\chi^2(1) = 5.00$	$p < .05$.192

Note. *Two logistic regressions were conducted to assess if education moderates the relationship between fear belief scores and compliance. Education was dichotomized into participants with at least a bachelor's degree ($n = 80$, 68.4%) versus participants without a bachelor's degree ($n = 37$, 31.6%). A logistic regression was conducted for each of the educational groups: ^a high school/some college and ^b undergraduate/graduate.

Table 3 reveals that fear belief scores correctly classified 89% of noncompliant participants and 26% of compliant participants, with an overall correct classification of 68%. Beta coefficients reported that, for every unit increase in fear belief scores, participants were 2.55 times less likely to be compliant. Table 4 shows that fatalism scores correctly classified 85% of the noncompliant participants and 38.5% of the compliant participants, with an overall correct classification of 69%. Beta coefficients reported that, for every unit increase in fatalism scores, participants are 2.60 times less likely to be compliant.

Table 3
Classification Table on Fear Belief Scores (Compliant vs. Noncompliant)

Predicted $N = 117$			
Observed	Noncompliant	Compliant	Percentage Correct
Noncompliant	69	9	88.5
Compliant	29	10	25.6
Overall Percentage			67.5
Relative Risk			1.9

Table 4
Classification Table on Fatalism (Compliant vs. Noncompliant)

Predicted $N = 117$			
Observed	Noncompliant	Compliant	Percentage Correct
Noncompliant	66	12	84.6
Compliant	24	15	38.5
Overall Percentage			69.2
Relative Risk			2.0

The frequency and percentages of participants' responses to the CHBMS questions are presented in Table 5. Composite scores were created for each of the HBM subscales (susceptibility, severity, benefits, barriers, self-efficacy, and clues to action). Composite scores were calculated by adding the items in each subscale and dividing by the total number of items (3). Descriptive statistics revealed that susceptibility among this target population was extremely low, averaging at 14%. Therefore, a large percent of women in this study appeared to have low perceived susceptibility to breast cancer. However, 62% of participants reported that they were afraid of developing breast cancer. In essence, the participants have a much greater trepidation regarding breast cancer than an understanding of the susceptibility of the disease. This underscores the necessity of continued work in educating AAMC women regarding breast cancer awareness. In analyzing the benefits of mammography screening, 46% of the participants expressed that the positive advantage of having a mammogram was how reassuring a negative outcome would make them feel. Many of the participants indicated that the barriers of mammography screening were increased worry, embarrassment, and pain, which are the most significant predictors of AAMC women's adherence to breast cancer screening guidelines (Kazarian & Evans, 1997).

In viewing the CHBMS construct self-efficacy, 39% of participants stated that they did not know how to perform BSE and, in regard to the CHBMS construct clues to action, an average of 98% of participants declared that they want to discover health problems at an early stage. Although many of the women were noncompliant, this empirical evidence is reassuring and emphasizes the need for greater promotion of breast cancer awareness in a manner that truly underscores susceptibility to this disease and more importantly, focuses on the benefits of prevention and early detection. Such empowerment can change the status quo, strengthen self-efficacy, and enhance action.

Table 5
Frequency and Percentages Participants CHBMS Responses

Questions (<i>N</i> = 120)	Strongly Disagree/ Disagree		Neither Agree/nor Disagree		Strongly Agree/ Agree	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
<i>Susceptibility</i> (<i>M</i> = 2.67, <i>SD</i> = 0.74)						
It is extremely likely I will get breast cancer in the future.	39	33	64	53	17	14
I feel I will get breast cancer in the future.	42	35	68	57	10	8
There is a good possibility I will get breast cancer in the next 10 years.	42	35	64	53	14	12
My chances of getting breast cancer are great.	44	36	56	47	20	17
I am more likely than the average woman to get breast cancer.	45	37.2	55	46	20	16.8
<i>Seriousness</i> <i>M</i> = 3.27, <i>SD</i> = 0.87)						
I am afraid to think about breast cancer.	33	27	13	11	74	62
Problems I would experience with breast cancer would last a long time.	19	16	24	20	77	64
Breast cancer would threaten a relationship with my boyfriend, husband or partner.	52	43	26	22	42	35
If I had breast cancer my whole life would change.	12	10	18	15	90	75
If I developed breast cancer, I would not live longer than 5 years.	45	37	63	53	12	10
<i>Benefits of Mammography</i> (<i>M</i> = 3.68, <i>SD</i> = 0.46)						
When I get a recommended mammogram, I feel good about myself.			65	54	55	46
When I get a mammogram, I don't worry as much about breast cancer.	13	11	64	53	43	36
Having a mammogram or x-ray of the breast will help me find lumps early.	3	3	25	21	92	76
Having a mammogram or x-ray of the breast will decrease my chance of dying from breast cancer.	9	7	21	18	90	75
Having a mammogram will help me find a lump before it can be felt by [me] or a health professional.	15	12	13	11	92	77
<i>Barriers of Mammography</i> (<i>M</i> = 4.01, <i>SD</i> = 0.66)						
Having a routine mammogram or x-ray of the breast would make me worry about breast cancer.	55	46	13	11	52	43
Having a mammogram or x-ray of the breast would be embarrassing.	69	57	30	25	21	18
Having a mammogram or x-ray of the breast would take too much time.	112	93	8	7		
Having a mammogram or x-ray of the breast would be painful.	38	32	9	7	73	61
Having a mammogram or x-ray of the breast would cost too much money.	96	80	15	12.5	9	7.5
<i>Self-Efficacy</i> (<i>M</i> = 2.98, <i>SD</i> = 0.85)						
I know how to perform breast self-examination.	47	39	5	4	68	57
I am confident I can perform breast self-examination correctly.	52	43	8	7	60	50
If I were to develop breast cancer I would be able to find a lump by performing self-examination.	55	46	17	14	48	40
I am able to find a breast lump if I practice breast self-examination alone.	48	40	18	15	54	45
I am able to identify normal and abnormal breast tissue when I do breast self-examination.	74	62	17	14	29	24
<i>Clues To Action</i> (<i>M</i> = 2.75, <i>SD</i> = 0.76)						
I want to discover health problems early.	2	1.7	1	0.8	117	97.5
Maintaining good health is extremely important to me.	1	0.8	1	0.8	118	98.3
I search for new information to improve my health.	25	21	28	23	67	56
I feel it is important to carry out activities which will improve my health.	1	0.8	0	0	119	99.2
I have regular health check-ups even when I am not sick.	44	36.7	4	3.3	72	60

Discussion

The findings of this study furnish pertinent observations regarding the participants' beliefs, attitudes, and behavior intentions in relation to screening. The participants also expanded their feelings concerning breast cancer screening and the importance of their health beyond the limits of the quantitative survey. First, although the participants showed a significant level of fear and fatalism regarding breast cancer screening, many individuals seemed receptive in that they expressed concern for their health. Thus, these findings suggest that, although psychosocial barriers may influence a woman's decision to have a mammogram in a timely manner, AAMC women are still concerned with their health and further positive personal guidance may perhaps motivate a change toward better screening practices.

The second significant finding of this analysis concerns preventive care and pertains to the HBM construct clues to action. The intrinsic value of primary preventive services helps ameliorate the root causes of diseases before they develop into major illnesses and, in many cases, can help avert secondary or tertiary stages of illness. Primary prevention is one of those factors that must continue to be a focus of intervention programs. It is more beneficial to the patient economically, physically, and mentally to seek preventive care now rather than later, when the body starts to deteriorate into poor health. As denoted by Gillum, Gorelick, and Cooper (1998), primary prevention is a message that must continue to emerge resoundingly. The information for this report revealed that many participants stated that they are less likely to schedule a routine medical visit to their physicians, especially when they are not sick. Therefore, AAMC women may benefit from concurrent interventions from multiple sources, such as grassroots leaders, physicians, and breast cancer awareness organizations. Using multiple robust interventions will increase breast cancer screening adherence and empower AAMC women to take a proactive role in their own health.

The research also underscored the need for interventions that improve psychosocial well-being, raise breast cancer awareness, and augment informative messages that promote breast cancer screening in a culturally specific and sensitive way. A well-rounded intervention plan is essential to reach the goals of increasing mammography screening and ameliorating mortality. As health officials continue to work assiduously to meet the goals of Healthy People 2010, it is vital to follow a detailed road map to build a healthier society (Healthy People 2010, 2008). In doing so, clinicians should continue working to promote health and wellness by changing negative attitudes toward screening. Wellness programs that are developed to promote the overall benefits of prevention, deter apprehension, and support individuals' beliefs while educating women regarding breast cancer fallacies are essential to increasing the rates of screening compliance.

The study affords profound information regarding why some AAMC women do not seek regular preventive screening. Borrayo and Jenkins (2001) reaffirm that healthy women may not "engage in screening because they rely on their subjective sense of feeling healthy more than epidemiological risk factors" (p. 821), which may explain the low rate of perceived susceptibility in this study. This would also explain why AAMC women have a low level of perception of their susceptibility to breast cancer. The HBM construct susceptibility denotes that an individual needs to have some cognitive sensibility that she is at risk to the disease at hand (Glanz, Rimer, & Lewis, 2002). However, as Borrayo and Jenkins postulated, some women may not perceive any reason to engage in regular prevention because of good health conditions. This is also an instrumental component that can be used to encourage AAMC women to adhere to screening

recommendations by teaching individuals that maintaining good health means seeking routine prevention visits.

Despite the study's strengths, limitations pertaining to the study's findings should be acknowledged. First, the sample size was relatively small; an increased sample size would allow for information to be generalized beyond the target population. Second, results are constricted to the limits of human integrity or honesty—the questions were personal, and some women may have felt obligated to select what seemed to be the “right” answer, instead of answering wholeheartedly and expressing their true feelings and actions. Possible additional confounding factors could include the environment, mood, and frame of mind of the women. Third, the cross-sectional nature of the study, relative to interpreting the cause and effect directionality linking fear and fatalism with cancer screening, is also be a limitation factor. However, the study remains important and actionable overall, despite the presence of the aforementioned limitations.

In conclusion, to increase breast cancer awareness and routine screening, it is vital to form aggressive prevention and education measures to increase knowledge among African American women. Before educators, clinicians, and researchers can undertake this problem, however, it is first critical to understand the delayed action from seeking screening and the many diversions. Also, it might be advantageous to discern the psychological and psychosocial barriers that hinder screening and use this information to compose culturally-specific literature that addresses those barriers, and to create compelling strategies to promote awareness.

Yet, before crafting such literature, it is essential that we come to understand the evolution of this quandary and decipher how deeply rooted fear and fatalism is within the African American population (Champion, 1999; Powe, 1997). After gathering a detailed understanding of these barriers, there is a greater need for physiological service agencies and public health officials to collaborate and work to dismantle some of the fallacies and fears of breast cancer. These efforts can empower those women who feel powerless and help them gain a sense of control in relation to breast cancer as well as other health concerns.

A fundamental direction for future research is to explore other racial and ethnic groups of middle class status. Throughout this study, the research focused on AAMC women, who are members of the ethnic group with the highest mortality of breast cancer (ACS, 2008). Therefore, interventional studies that explore other racial and ethnic groups of middle class status may identify comparative variables and undercover strategies from dismantling these confounding barriers. Furthermore, those scholars may find intricate processes that diverse groups are doing to improve mammography screening, and this information can be used to promote breast cancer screening among African American women.

Further arduous efforts should seek to build upon this study and overcome the subsegment population barrier to increase the target population and generalizability of these findings. It would be comparatively significant to expand on this study by utilizing a simple randomized trial in an environment where AAMC women's citizenship is greater and the chance of eliciting participants would be much better. Meanwhile, researchers must continue exploring women's emic perspective regarding breast cancer and include this information, as well as cultural beliefs and practices, within persuasive messages that will encourage screening among African American women.

References

- American Cancer Society. (2008). *Cancer facts & figures for African Americans 2007–2008*. Atlanta, GA: American Cancer Society.

- American Psychological Association. (2004). Breast Cancer: How your mind can help your body. Retrieved July 6, 2006, from <http://apahelpcenter.org/articles/article.php?id=47>
- Bay, E. J., & Algase, D. L. (1999). Fear and anxiety: A simultaneous concept analysis. *Nursing Diagnosis, 10*(3), 103-111.
- Borrayo, E. A., & Jenkins, S. R. (2001). Feeling healthy: So why should Mexican-Descent women screen for breast cancer? *Qualitative Health Research, 11*(6), 812-824.
- Brenes, G. A., & Skinner, C. S. (1999). Psychological factors related to stage of mammography adoption. *Journal of Women's Health & Gender-Based Medicine, 8*(10), 1313-1321.
- Champion, V. L. (1984). Instrument development for health belief model constructs. *ANS. Advances in Nursing Science, 6*(3), 73-85.
- Champion, V. L. (1999). Revised susceptibility, benefits, barriers scale for mammography screening. *Research in Nursing & Health, 22*, 341-348.
- Champion, V. L., Skinner, C. S., Menon, U., Rawl, S., Giesler, R. B., Monahan, P., et al., (2004). A breast cancer fear scale: Psychometric Development. *Journal of Health Psychology, 9*(6), 753-762.
- Champion, V. L., & Springston, J. (1999). Mammography adherence and beliefs in a sample of low-income African American women. *International Journal of Behavior medicine, 6*(3), 228-240.
- Corsini, R. J. (1999). The dictionary of psychology. Philadelphia: Taylor & Francis Group.
- Crump, S. R., Mayberry, R. M., Taylor, B. D., Barefield, K. P., & Thomas, P.E (2000) Factors related to noncompliance with screening mammogram appointments among low-income African-American women. *Journal of National Medical Association, 92*(5), 237-246.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers, 28*, 1-11.
- Farley, T. A., & Flannery, J. T. (1989). Late stage diagnosis of breast cancer in women of lower socioeconomic status: Public health implications. *American Journal of Public Health, 79*(11), 1508-1512.
- Franklin, M. D., Schlundt, D. G., McClellan, L. H., Kinebrew, T., Sheats, J., Belue, R., et al., (2007). Religious fatalism and its association with health behaviors and outcomes. *American Journal of Health Behavior, 31*(6), 563-572.
- Frisby, C. M. (2002). Message of hope: Health communication strategies that address barriers preventing Black women from screening for breast cancer. *Journal of Black Studies, 32*(5), 489-505.
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational Research: An Introduction*. White Plains, NY: Longman.
- Garza, N. A., Luan, J., Blinka, M., Farabee-Lewis, I., Neuhaus, C. E., Zabora, J. R., & Ford, J. G. (2005). A culturally targeted intervention to promote breast cancer screening among low-income women in East Baltimore, Maryland (2005), *Cancer Control, 12*(1), 34-41.
- George, D. & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference* (11.0 update, 4th ed.). Boston: Allyn & Bacon.
- Gillum, R. F., Gorelick, P. B., & Cooper, E. S. (1998). *Stroke in Blacks: A guide to management and prevention*. S. Karger Publishers, Basel, Switzerland.
- Glanz, K., Rimer, B. K., & Lewis, F. M. (2002). *Health behavior and health education. Theory, research and practice* (3rd ed.). San Francisco: Wiley & Sons.

- Healthy People 2010. (2008). Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, Retrieved July 6, 2006, from <http://www.healthypeople.gov/>
- Hochbaum, G. M. (1958). *Public participation in medical screening programs: A sociopsychological study* (PHS Publication No. 572). Washington, DC: Government Printing Office.
- Internet World Stats (2006). World Internet Usage Statistics and Population Stats. Retrieved September 2, 2006, from <http://www.internetworldstats.com/stats.htm>
- Kazarian, S. S., & Evans, D. R. (1997). Cultural Clinical Psychology, Theory, Research, and Practice. Oxford University Press: U.S., p. 279.
- Kirscht, J. P. (1974). The health belief model and illness behavior. *Health Education Monographs*, 2, 2387–2408.
- Loerzel, V. W., & Bushy, A. (2005). Interventions that address cancer health disparities in women. *Family & Community Health*, 28(1), 79–89.
- McWhorter, W. P., & Mayer, W. (1987). Black/White differences in type of initial breast cancer treatment and implications for survival. *American Journal of Public Health*, 7(12), 1515–1517.
- Mikhail, B. (1981). The health belief model: A review and critical evaluation of the model, research, and practice. *Advances in Nursing Science*, 4, 65–82.
- Miller, A. M., & Champion, V. L. (1997). Attitudes about breast cancer and mammography: *Racial, income, and educational differences*. *Women & Health*, 26(1), 41–63.
- Mitchell, J., Mathews, H. F., & Mayne, L. (2005). Differences in breast self-examination techniques between Caucasian and African American elderly women. *Journal of Women's Health*, 14(6), 476–483.
- National Cancer Institute. (2008). *Breast cancer control*. Retrieved May 5, 2008, from <http://www.nci.nih.gov/cancertopics/types/breast>
- Phillips, J. M., Cohen, M. Z., & Moses, G. (1999). Breast cancer screening and African American women: Fear, fatalism, and silence. *Oncology Nursing Forum*, 26(3), 561–571.
- Powe, B. D. (1995). Fatalism among elderly African Americans: Effects on colorectal screening. *Cancer Nursing*, 18(5), 385–392.
- Powe, B. D. (1997). Cancer Fatalism – Spiritual Perspectives. *Journal of Religion and Health*, 36(2), 135–137.
- Powe, B. D., & Finnie, R. (2003). Cancer fatalism: The state of the science. *Cancer Nursing*, 26(6), 454–467.
- Powe, B. D., & Johnson, A. (1995). Fatalism among African Americans: Philosophical perspectives. *Journal of Religion Health*, 34(2), 119–125.
- Rosenstock, I. M. (1960). What research in motivation suggests for public health. *American Journal of Public Health*, 50, 295–301.
- Russell, K. M., Monahan, P., Wagle, A., & Champion, V. (2006). Differences in health and cultural beliefs by stage of mammography screening adoption in African American women. *Cancer*, 109(S2), 386–395.
- Sadler, G. R., Ko, C. M., Cohn, J. A., White, M., Weldon, R., & Wu, P. (2007). Breast cancer knowledge, attitudes, and screening behaviors among African American women: the Black cosmetologists promoting health program, *BMC Public Health*, 7(57), 1–8.

- Stoner, T. J., Dowd, B., Carr, W. P., Maldonado, G., Church, T. R., & Mandel, J. (1998). Do vouchers improve breast cancer screening rates? Results from a randomized trial. *Health Services Research, 33*(1), 11–28.
- Straughan, P. T., & Seow, A. (1998). Fatalism reconceptualized: A concept to predict health screening behavior. *Journal of Gender Cult Health, 3*(2), 85–100.
- Survey Monkey. (2006). Design Survey Software. Retrieved January 2, 2006, from <http://surveymonkey.com>
- Thomas, L. R., Fox, S. A., Leake, B. G., & Roetzheim, R. G. (1996). The effects of health beliefs on screening mammography utilization among a diverse sample of older women. *Women & Health, 24*(3), 77–94.
- Thomas, V. N., Saleem, T., & Abraham, R. (2005). Barriers to effective uptake of cancer screening among Black and minority ethnic groups. *International Journal of Palliative Nursing, 11*(11), 562–571.
- US Census Bureau (2005). *Income, earnings, and poverty from the 2004 American Community Survey* (American Community Survey Reports). Washington, DC: US Department of Commerce Economics and Statistics Administration. Retrieved July 6, 2006, from <http://www.census.gov/prod/2006pubs/acs-02.pdf>
- Wells, B. L., & Horm, J. W. (1992). Stage at diagnosis in breast cancer: Race and socioeconomic factors. *American Journal of Public Health, 82*(10), 1383–1385.
- Wheary, J. (2005). *Measuring the middle: Assessing what it takes to be middle class*. New York: Demos: A Network for Ideas and Action.

The ***Journal of Social, Behavioral, and Health Sciences*** is an open-access, peer-reviewed, online interdisciplinary journal focusing on research findings that address contemporary national and international issues. Its objectives are to (a) encourage dialogue between scholars and practitioners in the social, behavioral, and health sciences that fosters the integration of research with practice; (b) promote innovative models of interdisciplinary collaboration among the social, behavioral, and health sciences that address complex social problems; and (c) inform the relationship between practice and research in the social, behavioral, and health sciences.

Walden University Publishing: <http://www.publishing.waldenu.edu>
